

REMARKS

Claims 1, 4-44 and 46-80 are pending in this application. Claims 4-10, 14-16, 29, 33-40, 42 and 43 have been withdrawn from consideration by the Examiner. By this Amendment, claims 1 and 32 are amended, and claim 45 is canceled. Support for the amendment can be found, for example, in Fig. 1(a) and in the original claims. No new matter is added. Reconsideration of the application based upon the above amendments and the following remarks are respectfully requested.

I. Interview

The courtesies extended to Applicants' representative by Examiner Arena at the interview held on March 24, 2011, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

II. Claim Objection

The Office Action objects to claim 45 for informalities. By this Amendment, claim 45 is canceled rendering the objection moot. Withdrawal of the objection is respectfully requested.

III. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1, 11-13, 17-28, 30-32, 41 and 44-80 under 35 U.S.C. §103(a) over Applied Physics Letters, Vol. 77, No. 18, pages 2891-2893 (2000) to Haruyama et al. ("Haruyama") in view of U.S. Patent No. 7,008,758 to Park et al. ("Park").

Applicants thank the Examiner for the indication that "Fig. 1(a) of the instant invention, in which the nanotubes directly contact two electrodes of different material and therefore form the claimed different barrier levels has not been found in the prior art." See Office Action, page 14. Further, Applicants thank the Examiner for the indication during the March 24 interview that, in view of Figs. 1(a)-(c) of Haruyama, claims 1 and 32 appear to be

allowable if it further recites that "the carrier transporter is in direct contact with both of the pair of electrodes."

In view of the Examiner's helpful indications, Applicants amend claims 1 and 32 to recite, *inter alia*, that "the carrier transporter is in direct contact with both of the pair of electrodes."

Park is only applied for its alleged teachings of a cross-link and a network structure of multiple carbon nanotubes, and thus does not cure the deficiencies of Haruyama with respect to claims 1 and 32.

Therefore, claims 1 and 32 and their dependent claims would not have been rendered obvious by the applied references. Reconsideration and withdrawal of the rejections are respectfully requested.

IV. Rejoinder

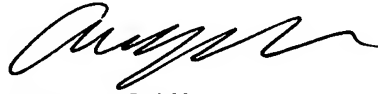
Rejoinder of withdrawn claims 4-10, 14-16, 29, 33-40, 42 and 43 is respectfully requested. Claims 4-10, 14-16, 29 require all the features of claim 1 and, thus, should be rejoined upon allowance of claim 1. Claims 33-40, 42 and 43 require all the features of claim 32 and, thus, should be rejoined upon allowance of claim 32. Because claims 1 and 32 are believed to be allowable for at least the reasons discussed above, withdrawal of the restriction requirement and rejoinder, examination, and allowance of claims 4-10, 14-16, 29, 33-40, 42 and 43 are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Request for Continued Examination

Date: June 16, 2011

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